

Supplier Selection Using Sustainable Criteria in Sustainable Supply Chain Management

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Abstract : Selection of suppliers is a crucial problem in the supply chain management. On top of that, sustainable supplier selection is the biggest challenge for the organizations. Environment protection and social problems have been of concern to society in recent years, and the traditional supplier selection does not consider about this factor; therefore, this research work focuses on introducing sustainable criteria into the structure of supplier selection criteria. Sustainable Supply Chain Management (SSCM) is the management and administration of material, information, and money flows, as well as coordination among business along the supply chain. All three dimensions - economic, environmental, and social - of sustainable development needs to be taken care of. Purpose of this research is to maximize supply chain profitability, maximize social wellbeing of supply chain and minimize environmental impacts. Problem statement is selection of suppliers in a sustainable supply chain network by ranking the suppliers against sustainable criteria identified. The aim of this research is twofold: To find out what are the sustainable parameters that can be applied to the supply chain, and to determine how these parameters can effectively be used in supplier selection. Multicriteria decision making tools will be used to rank both criteria and suppliers. AHP Analysis will be used to find out ratings for the criteria identified. It is a technique used for efficient decision making. TOPSIS will be used to find out rating for suppliers and then ranking them. TOPSIS is a MCDM problem solving method which is based on the principle that the chosen option should have the maximum distance from the negative ideal solution (NIS) and the minimum distance from the ideal solution.

Keywords : sustainable supply chain management, sustainable criteria, MCDM tools, AHP analysis, TOPSIS method

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